

Cultural Reflections in Qatari Government Websites

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Abstract. Localizing a website by incorporating culturally appropriate design features arguably helps it become more functional and usable for its users. This paper seeks to explore cultural reflections in government websites from Qatar using the influential cultural model of Geert Hofstede. Through using systematic content analysis, the examination focused on Web design elements which have been proven to be good indicators of preferences within cultural groups. The results showed that Arab culture which Qatar belongs to is somewhat reflected in the design of Qatari websites.

Keywords: Web design · Usability · Qatar · Culture · Hofstede

1 Introduction

In recent years, the government of Qatar has demonstrated a strong commitment to making the Internet more accessible and affordable for people living in the country, something reflected in the number of people using the Internet in Qatar. According to Internet World Stats [9], there were almost 2 million (95 % of the population) Internet users in Qatar in 2014. Abdallah and Albadri [1] noted that these numbers are among the highest in the Arab world along with the United Arab Emirates and Bahrain, mainly due to the rich oil economy and attracting foreign Internet and Communication Technology (ICT) investment in these countries.

Qatar has a well-developed vision towards moving into knowledge society, along with a clear national ICT policies and strategies, with effective implementation plans supported by government and other stakeholders [1, 15]. Part of the strategy is to accelerate the nation's e-government efforts and increase the number of online government services to 100 % by 2020. The country is also looking into providing user-friendly "anytime, anywhere" access to government and its services to users, ensuring that they can complete online services through simplified and easy-to-use websites [15].

Culture is considered one of the attributes affecting the usefulness and usability of websites [5, 21]; therefore several studies have attempted to investigate it in relation to Web design [3, 4, 10, 13, 14]. The influential cultural model of Geert Hofstede [6, 7] has been utilized at length to examine cross-cultural Web design. In his model, Hofstede assigned comparative scores for 50 individual countries and three regions on five cultural dimensions. These dimensions comprise: Power Distance, Uncertainty Avoidance, Individualism/Collectivism, Masculinity/Femininity, and Long/Short-Term Orientation.

As one composite group, Arab countries scored 80 on Power Distance, 68 on Uncertainty Avoidance, 38 on Individualism (i.e. indicating a collectivist culture), 53 on the Masculinity dimension, and they had no score on Long-/Short-term Orientation dimension.

Qatar was not one of the seven countries Hofstede included in his model, which were Egypt, Lebanon, Saudi Arabia, United Arab Emirates, Iraq, Libya, and Kuwait. However, since it is considered an Arab state [12], this study looks into whether its websites actually reflect the cultural characteristics described by Hofstede's model.

2 Qatar in Cultural Web Design Studies

Arab countries, including Qatar, have received limited attention in cultural Web design research [10]. Studies that included these countries revealed that their websites reflected Arab culture described in Hofstede's model, but to different extent.

For example, national Web portals from Egypt had a strong focus on the Egyptian culture, reflecting a high Power Distance characteristic. While their counterparts from Morocco had a good presentation of women's issues and non-Islamic reference, relating to the Masculinity and Power Distance dimensions respectively [23].

In another study conducted by Callahan [4], university websites from Arab countries included in Hofstede's model reflected design characteristics that are inferred from the dimensions. This was also found in another study conducted by Marcus and Hamoodi [14] based on analysis of university websites from Jordan, Egypt, and the United Arab Emirates.

3 Methodology

3.1 Websites

The government websites chosen for analysis are primarily intended for the nation of Qatar, rather than the worldwide Internet community. Second, these websites can be expected to have as one design goal the reflection of the socio-cultural, technological and economic characteristics of their intended culture [23].

According to the Qatari e-government portal, Hukoomi [8], there are 17 ministries in the country, two of which have no websites while a third website was under construction at the time of the inspection and analysis between 24 and 26 October 2014. The website belonging to the Ministry of Development Planning and Statistics was divided into two units of analysis, as there were two websites available from the landing page, one for each section of this ministry. This leaves 15 websites in total for analysis; screenshots of three websites are provided in Figs. 1, 2 and 3.

3.2 Analysis

This study utilized content analysis, which is a valid method used to describe trends in communication context, allowing researchers to make inferences about the patterns and differences among similar components of that communication context [11].

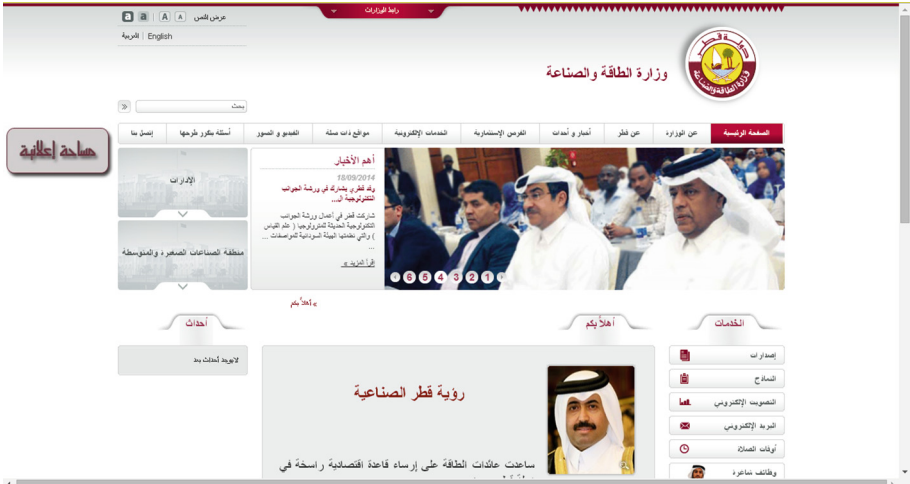


Fig. 1. Ministry of energy and industry, 2014. <http://www.mei.gov.qa>



Fig. 2. Ministry of finance, 2014. <http://www.mof.gov.qa>

The components were the graphical, organizational, and navigational design elements (e.g. colors, images, graphics, spatial orientation, links) which had been identified as being culturally specific [3], and have been linked to Hofstede’s model of cultural dimensions [2, 13, 19]. These elements were extracted from the home page of each of the selected websites, because it is argued to be the most important page on any website [17].

For categorical variables, such as entry page and menus, frequencies and percentages were used to describe the data. Non-parametric Chi-square test was also used to examine



Fig. 3. Ministry of foreign affairs, 2014. <http://www.mofa.gov.qa>

whether the presence of these elements is significant or not. Continuous variables, such as number of pictures and number of languages, do not have a fixed number of values thus were analyzed using descriptive statistics (mean and standard deviation).

4 Results

The content analysis of the 15 government websites from Qatar focused on design elements which are associated with Hofstede's dimensions: Power Distance, Uncertainty Avoidance, Individualism/Collectivism, Masculinity/Femininity, and Long-/Short-Term Orientation.

4.1 Power Distance

High power distance in Web design is manifested in the presence of social models (national and/or religious), structured page design through use of symmetrical pages, placing heavy focus on images of buildings rather than people, and using logos. When images of people are used rather than those of buildings, the focus would be more on images of officials rather than images of citizens.

The presence of social models on these interfaces was limited as only one website (7 %) had religious social models, probably due to the type of website (Ministry of Endowments). The results of the non-parametric Chi-square test confirmed the difference between those websites which had social models and those which did not ($\chi^2_{(1)} = 11.3, p = 0.001$). The same case was for the symmetrical design of the pages, as 10 of these pages (67 %) had non-symmetrical design, compared to semi-symmetrical (27 %) and ideally design (7 %).

Logos were present on all 15 homepages, with a total of 27 logos ($M = 1.8$, $SD = 1.6$). Additionally, there were a total of 98 images of people on these homepages ($M = 6.5$, $SD = 7.5$), compared to 54 images of buildings ($M = 3.6$, $SD = 10.7$). Of these 98 images, there were 38 for officials ($M = 2.5$, $SD = 2.8$), 28 for citizens ($M = 1.9$, $SD = 2.6$), 24 for mixed status ($M = 1.6$, $SD = 4.5$), and 8 unidentified status ($M = 0.5$, $SD = 1.1$).

After averaging all design elements associated with power distance, the score (21) was not even close to that which was collectively assigned by Hofstede to Arabic-speaking countries (80).

4.2 Uncertainty Avoidance

Web interfaces with high uncertainty avoidance are described as being simple with limited choices and a restricted amount of data. This dimension is reflected in the menu structure, number of links, and presence of news.

The analysis showed that 80 % of the homepages had complex menus (i.e. having sub-menus), and the difference between simple and complex menus was significant ($\chi^2_{(1)} = 5.4$, $p = 0.02$). As for the presence of news, all websites had news items on their interfaces. The mean for the number of links on the 15 homepages was 81 ($SD = 26.4$), the highest was for the Ministry of Labor and Social Affairs (122), while the lowest was for the Ministry of Youth and Sports (13).

After averaging the design elements associated with this dimension, the score (73) was higher than that assigned by Hofstede to Arabic-speaking countries (68).

4.3 Individualism/Collectivism

In Web design, interfaces with high individualism will depict more images of individuals rather than groups, provide provisions of user protection through privacy policy statements and site registration, and provide site customization for the users.

Of the 98 images of people, 21 were images of individuals ($M = 1.4$, $SD = 1.9$), 16 images of couples ($M = 1$, $SD = 1.2$), and 61 images of groups ($M = 4.1$, $SD = 6.5$).

The privacy policy, which is a statement provided to indicate to the user how the information could be used and shared, was available on 53 % of the home pages. While the rights reserved statement, which is used to indicate the ownership of the information provided on the website, is available on 73 % of the sampled home pages.

The customization variable refers to the ability to adjust some features of the interface such as changing the font size or the background color. The results showed only 20 % of the homepages providing some kind of customization for the users, such as changing the font size.

After averaging the design elements associated with Individualism/Collectivism, the score (42) was slightly higher than that assigned by Hofstede to Arabic-speaking countries (38), but still indicating a collectivist culture rather than an individualistic one.

4.4 Masculinity/Femininity

Masculinity in interfaces is depicted through traditional gender distinctions between users, and through animation and games. This is reflected in using images of men versus images of women, using animated images, and keeping a count of site visitors by using a visitor counter.

Of the 98 images of people on the 15 homepages, there were 66 of men ($M = 4.4$, $SD = 4.7$), 4 of women ($M = 0.3$, $SD = 0.5$), 25 of mixed gender ($M = 1.7$, $SD = 3.2$), and 3 of unidentified gender ($M = 0.2$, $SD = 0.8$).

Animated images were available on 14 websites (93 %), with a total number of 219 images ($M = 14.6$, $SD = 23.7$). The highest number was for the Ministry of Culture, Arts and Heritage with 97 animated images, while the lowest was for the Ministry of Foreign Affairs with no animated images at all. The results showed that only one website had a visitor counter.

After averaging the design elements associated with Masculinity/Femininity, the score (48) was slightly lower than that assigned by Hofstede to Arabic-speaking countries (53), which indicates slightly a feminine culture.

4.5 Long-/Short-Term Orientation

The content of Web interfaces with long-term orientation focuses on patience in achieving results, and on using cultural markers such as national colors. Web design elements that reflect this dimension are site searching tools such as search engines and site maps, frequently asked questions, and national colors.

The results showed that 80 % of the homepages had search engines, while the site map was less popular with only 53 %. Those results were further confirmed with the Chi-square test, as there were differences between those websites in terms of using search engines ($\chi^2_{(1)} = 5.4$, $p = 0.02$), but not of using site maps ($\chi^2_{(1)} = 0.07$, $p = ns$). As for the frequently asked questions feature, it was available on 13 % of these websites. Averaging the design elements associated with long-/short-term orientation gave a score of 49. While Arabic-speaking countries have no score on this dimension, Qatar's score slightly indicates a short-term orientation.

5 Discussion and Conclusion

Users' needs and expectations are partly influenced by their cultural background [5, 16, 21], therefore many researchers have investigated cultural presence and reflection on the Web [3, 4, 13, 14]. In doing so, usability experts have heavily used and cited the influential cultural model of Geert Hofstede [6, 7] in understanding user interfaces from different cultures. This exploratory study also utilized Hofstede's model of cultural dimensions to examine 15 government websites from Qatar. The main purpose of the study is to shed light on cultural reflections in the design of these websites, paving the way for user-friendly and culturally adapted websites for local users in the country.

Generally, the sampled websites demonstrated consistency in the "feel and look" of the design by regularly using a traditional logo while using colors from the Qatari flag,

maroon and white. There was also consistency in the URLs for these websites, as all but one indicated that these websites are for government bodies in Qatar by using gov.qa in the Web address. They also provide contact information such as telephone number and email address, along with social media tools such as Facebook and Twitter. Additionally, three homepages were available only in Arabic, 11 had two linguistic versions (Arabic and English), while the final homepage had three languages (Arabic, English, and French).

The results showed that Qatar matched the description of Arabic-speaking countries on two of the four of Hofstede's dimensions on which Arab countries had a score. While the collective score for Arab countries on the Power Distance dimension is 80, Qatar got a score of 21 in this study. This low score represented the low number of social models, symmetrical design, and images of buildings (compared to images of people). On the other hand, most of the logos available on the interfaces had traditional design using the Qatari national emblem with the name of the ministry in question. As for the status of people in images, the majority of these images depicted officials rather than citizens or mixed status.

The collective score on the Uncertainty Avoidance was also relatively high for Arab countries, with 68. Qatar on the other hand had a higher score than Hofstede's, with 73. This score is represented in the relatively low number of links (i.e. restricted amount of data), and presence of news items on all websites, providing information about the activities each ministry is involved in, as well as news about Qatar in general.

As a group, Arab countries scored 38 on the Collectivism/Individualism dimension, reflecting a culture oriented towards being in groups. While not perfectly matching this score, Qatar also showed a collectivist culture with a score of 42. This was reflected in the heavy use of images of groups (compared to images of individuals), and low number of customization options (e.g. font size, background color, etc.).

Arab countries are described as having a relatively masculine culture based on the collective score of 53 on Hofstede's Masculinity/Femininity dimension. Not far off from this score, Qatar scored 48 based on the high number of images of men (compared to images of women or mixed gender images) and the high number of animated images.

While Arab countries have no score on Hofstede's fifth dimension, Long-/Short-Term Orientation, the analysis focused on design elements associated with it. The results showed that with the score of 49, Qatar fell almost in the midpoint, slightly leaning towards short-term orientation. This is reflected in the use of search engines and site maps, but not for the frequently asked questions.

This small study has demonstrated that Arabic culture is somewhat reflected in Qatari government websites. While the results of this study confirm the results of other studies that included Arab countries [3] in regard to the use of culturally favored colors and images of people, they also refute the results of other studies [4] in regards to the presence of search engines. Designers would potentially benefit from this kind of research when it comes to incorporating cultural considerations in the design of websites, especially as the Web is becoming more global and more sophisticated in its design [20, 22].

The wider questions remain as: (a) whether the usability of an Arabic website is enhanced by designing it in accordance with these cultural markers; and (b) whether

cultural background of Qatari users is reflected in the attitudes toward Web design elements. This would require further examination of user satisfaction [18], efficiency, and effectiveness of Qatari websites through subjective and objective usability testing, as usability is important for successful implementation of e-government.

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